B2

3. (Amended) The voltage regulator of claim 2, wherein the first gate voltage is larger than the second gate voltage.

4. (Amended) The voltage regulator of claim 3, wherein the first gate voltage is substantially equal to an input voltage at the input terminal.

B3

7. (Amended) The voltage regulator of claim 3, wherein [the first transistor includes a first gate oxide layer, the second transistor includes a second gate oxide layer, and] the first gate oxide layer is thicker than the second gate oxide layer.

B4

~~19.~~ 15. (Amended) [The] A voltage regulator [of claim 1,] having an input terminal and an output terminal, comprising:

a first transistor connecting the input terminal to an intermediate terminal;

a second transistor connecting the intermediate terminal to ground;

a controller that drives the first and second transistors to alternately couple the intermediate terminal between the input terminal and ground, wherein the controller drives the first transistor with a first gate voltage and drives the second transistor with a second, different gate voltage; and

a filter disposed between the input terminal and the output terminal to provide a substantially DC voltage at the output terminal, the filter including at least one element connecting the intermediate terminal to the output terminal;

wherein the first transistor includes a source, a drain and a gate, and the first transistor has a channel length between the source and the drain which is less than a channel length required for reliable behavior under steady state saturation conditions.

~~20.~~ 16. (Amended) [The] A voltage regulator [of claim 1,] having an input terminal and an output terminal, comprising:

a first transistor connecting the input terminal to an intermediate terminal;

a second transistor connecting the intermediate terminal to ground;

B4 Cancel'd.

a controller that drives the first and second transistors to alternately couple the intermediate terminal between the input terminal and ground, wherein the controller drives the first transistor with a first gate voltage and drives the second transistor with a second, different gate voltage; and

a filter disposed between the input terminal and the output terminal to provide a substantially DC voltage at the output terminal, the filter including at least one element connecting the intermediate terminal to the output terminal;

wherein the second transistor includes a source, a drain and a gate, and the second transistor has a channel length between the source and the drain which is less than a channel length required for reliable behavior under steady state saturation conditions.

Please add the following new claims:

B5 17. ~~21~~. (New) The voltage regulator of claim 1, wherein the first and second transistors have a double diffused drain structure.

18. ~~22~~. (New) The voltage regulator of claim 1, wherein the first and second oxide layers are formed on a surface of a semiconductor.

19. ~~23~~. (New) The voltage regulator of claim 1, wherein application of the first gate voltage turns the first transistor on.

20. ~~24~~. (New) The voltage regulator of claim 1, wherein application of the second gate voltage turns the second transistor on.

REMARKS

I. Restriction

The Examiner's restriction remains improper. The Examiner argues that the inventions are unrelated. However, apparatus inventions are unrelated only if they are disclosed as not being useable together (see MPEP 806.04(A)). In contrast, the application discloses that the inventions can be used together. In fact, the line with circles representing datapoints in Figure 5